

REMARKS

Applicant retracts the arguments presented in support of patentability of claims 20 and 33 in the reply to the Office action mailed June 2, 2009.

In the Office action mailed June 2, 2009 the examiner repeated and made final the requirement for restriction between the method claims 20, 33 and 37-48 and the apparatus claims 34-36 on the ground that the particular material dispensed by the printing head of claim 34 (i.e. radiation absorbent material) does not form part of the apparatus structure and is of no patentable significance regarding the apparatus claims. Applicant respectfully requests that the examiner should reconsider his position on this point, withdraw the requirement for restriction, and examine claims 34-36.

A patent applicant presenting a claim to an apparatus comprising a printing head will not normally recite the ink or other deposit material positively as an element of the claim because the applicant will not wish to rely on the ink to distinguish over the prior art and therefore recitation of the ink would limit the claim unnecessarily. In this case, however, applicant has chosen to recite the deposit material (radiation absorbent material) in the apparatus claim and therefore the deposit material forms part of the apparatus structure: a printing head without the deposit material present, or with a deposit material that is not a radiation absorbent material, is not covered by the claim. The examiner has not cited any authority for the proposition that any tangible element that is positively recited in an apparatus claim should not be considered part of the apparatus structure and should not be accorded patentable significance. Since Koshnevis does not disclose or suggest that the printing head should comprise radiation absorbent material, the printing head comprising radiation absorbent material constitutes a special technical feature common to the method claims and the apparatus claims.

Applicant has amended the paragraph starting at page 2, line 10. This amendment is supported by the passages at page 8, lines 15-27 and page 11, lines 1-20.

A new claim 49 has been added. The new claim 49 is supported by page 8, lines 1-13.

Claims 20, 33, 37 and 48 stand rejected under 35 USC 102 over Hochsmann et al and claims 38 and 47 stand rejected under 35 USC 103 over Hochsmann et al. Claim 39 stands rejected under 35 USC 103 over Hochsmann et al in view of Bourell. Applicant notes that the examiner is no longer relying on Monsheimer et al to support a rejection over the prior art.

Hochsmann et al relates to a method for the manufacturing of parts. The method includes depositing a layer of pourable composite material containing particles with a binder material coating. Next, a moderating agent is applied onto the composite material layer in a selected sub-area of the process area. The moderating agent shifts the level of specific energy necessary for bonding the composite material together (see column 2, lines 28 to 29) and "is suitable for locally modifying the volume specific amount of energy necessary for bonding of the composite material" (see column 3, lines 9 to 11). Next, energy is induced to solidify the selected sub-area. The above mentioned steps are then repeated and finally, the solidified composite material is separated from the non-solidified composite material.

In the method of Hochsmann et al, particles in areas that are treated with the moderating agent reach logically the same level of energy as those in non treated areas (e.g. they achieve the same temperature). However, the moderating agent means that the particles in the treated area consolidate but those in the non-treated area do not consolidate. Hochsmann et al does not disclose that the energy (e.g. temperature) achieved in the treated sub-area(s) is higher than that in the non-treated area(s).

Each of the independent claims 20, 33 and 34 recite "radiation absorbent material". Hochsmann et al does not disclose "(ii) varying the absorption of provided radiation across a selected surface portion of the layer to sinter a portion of the material in the layer", "(iv) varying the absorption of provided radiation across a selected portion of the further layer

..." and "wherein the variation of radiation absorption in steps (ii) and (iv) is obtained by providing an amount of radiation absorbent material over the selected surface portion of the layer and the further layer respectively" as recited in claim 33 (emphasis added). Instead, Hochsmann et al merely discloses providing a moderating agent for shifting the level of specific energy necessary for bonding the composite material together. The "moderating agent" of Hochsmann et al is not analogous to the "radiation absorbent material" recited in claim 33 since it is not related to the absorption of radiation but is instead related to changing the level of energy needed to bond the composite material.

It would not have been obvious to a person of ordinary skill in the art to adapt the teaching of Hochsmann et al to arrive at the subject matter of claim 33. Hochsmann et al teaches away from any use of radiation absorbent material by purposefully providing for an equal amount of energy absorption in all portions of the composite material (because the energy absorption characteristics of the composite material are not changed) and instead teaches modifying the "volume specific amount of energy necessary for bonding of the composite material". By modifying the amount of energy needed to bond the composite material, Hochsmann et al eliminates any need to change the energy absorption characteristics of the composite material by providing radiation absorbent material. Consequently, the subject matter of claim 33 is not rendered obvious by Hochsmann et al.

In view of the foregoing, applicant submits that the subject matter of claim 33 is not disclosed or suggested by Hochsmann et al. Therefore, claim 33 is patentable over Hochsmann et al. It follows that the dependent claims 37-49 also are patentable.

The arguments presented above in support of claim 33 are also applicable to claims 20 and 34. Therefore, claim 20 and 34 are patentable and it follows that the dependent claims 35 and 36 also are patentable.

With regard to the rejection of claim 39, Bourell does not disclose "wherein step (i) comprises providing first particulate material in the first area and a second different particulate material in the second area of the layer" as recited in claim 39. Bourell merely

discloses providing two (or more) mixed or coated materials evenly across the whole bed. Consequently, since Bourell does not disclose the subject matter of claim 39, it would not be obvious, or indeed even possible, for a person skilled in the art to combine the teachings of Hochsmann et al and Bourell and arrive at the subject matter of claim 39. Therefore, claim 39 is patentable independently of claim 33.

Respectfully submitted,

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